برمجة الشبكات

12:00-2:00

13/6/2023

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Faculty of Computers & Information, Assiut University
Course code: IT432
4th Level
Final Exam
Duration: 2 hours
Total Marks: 50
Reviewer: (Add the name)
This exam for the following program(s) :   (Add the program's name(s))

1

الإسم الرباعي (بالعربي فقط) *

2

رقم الجلوس *

3

المستوي * 🔊

◯ الاول

◯ الثاني

◯ الثالث

◯ الرابع 2013

◯ الرابع 2014

◯ الرابع 2015

◯ الرابع 2016

◯ الرابع 2017

◯ الرابع 2018

⦿ الرابع 2019

4

البرنامج * 🔊

⦿ عام

◯ بايو

◯ هندسة

◯ ذكاء صناعي

5

رقم المعمل * 🔖

○ ٠ج

○ ٠د

○ ٠هـ

○ اب

◉ اج

○ اد

○ اهـ

○ ٢أ

○ ٢ب

○ ٢ج

○ ٢د

○ ٢هـ

○ ٣أ

○ ٣ب

○ ٣ج

○ ٣د

○ ٣هـ

○ ٤أ

○ ٤ب

○ ٤ج

○ ٤د

○ ٤هـ

6

* رقم الكمبيوتر

21

7

* الكود (قد تمت مراجعة بيانات الطالب ورقم الجلوس)

VBFK

✍ **Will be reviewed**

8

The host with full layers may be (choose all the correct answers)

☐ Router

☑ Server

☑ Switch

☑ Client

✏️ **Will be reviewed**

9

_____is the best way to save objects in streams so that we can "send" it any where or even save it immediately 📖

🔘 Serialization

⚪ Saving to file

⚪ Inserting into database

⚪ sending through networks

✏️ **Will be reviewed**

10

Connection oriented Socket obj parameters are : 📖

☑️ AddressFamily.InterNetwork

☑️ SocketType.Stream

☐ SocketType.Dgram

☑️ ProtocolType.Tcp

☐ ProtocolType.Udp

☐ ProtocolType.Raw

✏️ **Will be reviewed**

11

The most common managed programming language from Microsoft 📖

⦿ C#.net

◯ VB. net

◯ C++

◯ JAVA

✑ **Will be reviewed**

12

Common internet applications 📖

◯ Client/server

⦿ Email

◯ P2P architecture

◯ Resource distribution (DNS)

✑ **Will be reviewed**

13

Circuit switched networks are ... 📖

☑ dedicated circuit per call

☑ performance (guaranteed)

☐ resources used as needed

✓ setup required

✉ **Will be reviewed**

14

The Ip address and port number for common shared hardware in a network are .. 📖

✓ Fixed

☐ preconfigured

✓ Advertised

☐ none of the options are correct

✉ **Will be reviewed**

15

Identify the output 📖

◉ Length of simple-types.bin: 29

◯ Length of simple-types.bin: 33

◯ Length of simple-types.bin: 25

◯ Length of simple-types.bin: 17

✉ **Will be reviewed**

16

Major INTEROPERABILITY advantages 📖

☑ Code Reuse

☑ Eases maintenance, updating of system

☐ Communication

☐ Reliability

✏️ **Will be reviewed**

17

The least significant bits in an ip address represents 📖

☐ Net ID

☑ Host ID

☐ Class ID

☐ none of the options are correct

✏️ **Will be reviewed**

18

The following are network applications Except 📖

◯ Text, Audio and video chat.

◯ Video broadcast and multicast.

◯ Web browser

⦿ Compiler

✑ **Will be reviewed**

19

Example Socket Blocking Call 📖

☑ RecvFrom()

☐ Bind()

☑ Sendto()

☑ Accept()

✑ **Will be reviewed**

20

to use the "using " control structure the type must 📖

🔘 implement the interface IDisposable

◯ implement the interface ICompiler

◯ implement the interface IDisposed

◯ implement the interface Iformatter

✑ **Will be reviewed**

21

The upper stream is an _____ and the lower is _____ 📖

🔘 Output , input1

◯ input , output

◯ input, input

◯ output,output

✍ **Will be reviewed**

22

This pic shows how to use AutoResetEvent
, why we are using that during managing threads ? 🔈

◉ so that we can avoid RACE CONDITION?

◯ to control shared variable between objects

◯ to lock the code

◯ none of the answers are correct

✍ **Will be reviewed**

23

Example of protocols operates on layer 5 in the OSI Model 🔈

☑ RPC

☐ XNS

☐ FTP

☐ TCP

✍ **Will be reviewed**

24

Packet-switched networks are … 📖

- [ ] dedicated circuit per call

- [ ] performance (guaranteed)

- [✓] resources used as needed

- [ ] setup required

✒️ **Will be reviewed**

25

select the steps that we may need to thread them in this high level view of a multithreaded - responsive GUI server 📖

- [✓] Create a socket

- [ ] Bind the socket

- [✓] Listen for connections

- [ ] Accept new client connections

- [✓] Read/write to client connections

- [✓] Shutdown connection

✒️ **Will be reviewed**

26

Threads on simple PC run 📖

- (●) Concurrently

○ Sequentially

○ Simlitiniously

○ on parallel

✉ **Will be reviewed**

27

look and choose ☐�));

○ this program will broadcast

◉ this program will throw an exception

✉ **Will be reviewed**

28

Common (Major) socket blocking calls . . .. ☐�));

☑ Accept

☐ Receive

☐ Send

☑ Send To

✉ **Will be reviewed**

29

the [OnSerialized()] attribute is to identify the method invoked . . . ☐�));

○ After obj Serialization

○ After obj DeSerialization

○ During obj Serialization

○ During obj DeSerialization

✏️ **Will be reviewed**

30

Reads primitive data types as binary values in a specific encoding 🔊

⦿ BinaryReader

○ BinaryWriter

○ FileStream

○ StreamReader

✏️ **Will be reviewed**

31

ADAPTER CLASSES are set of classes provided by FCL to support reading and
writing in higher level such as 🔊

☑ StreamReader

☑ BinaryReader

☐ FileStream

☑ StreamWriter

✑ **Will be reviewed**

32

We may need threading during writing network programming to . . . 📖

○ Improve Application performance

○ Enable our server to serve multi clients

○ made our GUI don't freeze

◉ all the answers are correct

✑ **Will be reviewed**

33

We can receive the broad cast messages by … 📖

☐ using Wireshark

☐ using Ethereal

☑ coding a udp receiver

☑ using browser

✑ **Will be reviewed**

34

Identify the line number where the compression process is performed 📖

☑ line 10

☐ line 11

☐ line 12

☐ line 13

✉ **Will be reviewed**

35

All of these options are correct regarding broadcast **Except** 🔊

☐ To send a single packet of information that can be accessible by every device on the network.

☐ Two types: local and global

☐ The main goal is to limit the broadcasting network to developers' network and other are unaffected.

☑ Because TCP communication requires that two devices have a dedicated connection, it is possible to send broadcast messages in a strictly TCP environment.

☐ Instead, UDP packets must be used because that protocol has the capability of sending messages without a specific connection being defined

✉ **Will be reviewed**

36

Sensor Networks 🔊

☑ Small devices equipped by sensor and connected to the

☑ May include an environmental actuation

☑ Run on batteries

☐ Location don't matter

✉ **Will be reviewed**

37

helper classes used for socket programming 🔊

☑ TcpListener

☑ UdpClient

☑ TcpClient

☐ GzipStream

✉ **Will be reviewed**

38

The most Basic network Architecture is .... in terms of setup and cost 🔊

○ Client/server

◉ P2P

✉ **Will be reviewed**

39

select the steps that we may need to thread them in this high level view of a client 🔊

☑ Create a socket

☑ Setup the server address

☑ Connect to the server

✓ Read/write data

✓ Shutdown connection

✏️ **Will be reviewed**

40

All of these are Network benefits Except ...... 📖

○ Sharing resources

○ Load Sharing/utilization

○ High reliability

● Enhance Security

✏️ **Will be reviewed**

41

The layers which is uniquely exist to mimic managed code is 📖

✓ MSIL

✓ CLR JIT complier

☐ win32 API

☐ Windows OS